

AMENDMENTS TO THE CLAIMS:

1.(previously presented): A communication device for selecting a route of a packet, comprising:

a static routing table storing first routing information of a packet based on static routing, said static routing table is not changed by a change of network topology;

a dynamic routing table storing second routing information of a packet obtained based on a dynamic routing protocol; and

a judging unit obtaining the first and second routing information of the packet from said static routing table and said dynamic routing table; if a failure does not occur in a static route as a route corresponding to the first routing information obtained from said static routing table, selecting the static route as a route to which the packet should be forwarded; and selecting, if the failure occurs in the static route, a dynamic route as a route corresponding to the second routing information obtained from said dynamic routing table, instead of the static route.

2.(previously presented): A communication device according to claim 1, further comprising:

a forwarding unit forwarding the packet to the route corresponding to a result of the selection by said judging unit.

3.(previously presented): A communication device according to claim 1, wherein the packet contains a search key common to said static routing table and said dynamic routing table, and

said judging unit obtains the first and second routing information from said static

routing table and said dynamic routing table by use of the search key.

4.(previously presented): A communication device according to claim 1, wherein the packet contains a first search key as a search key of said static routing table and a second search key as a search key of said dynamic routing table, and

said judging unit obtains the first and second routing information from said static routing table and said dynamic routing table by use of the first and second search keys.

5.(previously presented): A communication device according to claim 4, wherein the first search key is virtual circuit information contained in the packet, and

the second search key is a unique destination address contained in the packet.

6.(previously presented): A communication device according to claim 5, wherein if the packet contains plural pieces of virtual circuit information, a predetermined piece of virtual circuit information is used as the first search key.

7.(previously presented): A communication device according to claim 1, further comprising:

a writing unit writing, when transmitting a packet through the dynamic route to another communication device having the same construction as that of said communication device, special information for said other communication device to select the dynamic route to the packet that should be transmitted.

8.(previously presented): A communication device according to claim 1, wherein said judging unit selects the dynamic route if special information is written to the packet.

9.(previously presented): A communication device for selecting a route of a packet, comprising:

a static routing table storing first routing information of a packet based on static routing;

a dynamic routing table storing second routing information of a packet obtained based on a dynamic routing protocol; and

a judging unit obtaining the first and second routing information of the packet from said static routing table and said dynamic routing table; if a failure does not occur in a static route as a route corresponding to the first routing information obtained from said static routing table, selecting the static route as a route to which the packet should be forwarded, and selecting, if the failure occurs in the static route, a dynamic route as a route corresponding to the second routing information obtained from said dynamic routing table, instead of the static route,

wherein the packet contains a first search key as a search key of said static routing table and a second search key as a search key of said dynamic routing table, and

said judging unit obtains the first and second routing information from said static routing table and said dynamic routing table by use of the first and second search keys, and wherein the first search key and second search key are two pieces of unique destination addresses different from each other.

10.(previously presented): A communication device according to claim 3, wherein the

packet contains an IPv4 header, and

the search key is a destination address contained in the IPv4 header.

11.(previously presented): A communication device according to claim 3, wherein the packet contains an IPv6 header, and

the search key is a destination address contained in the IPv6 header.

12.(previously presented): A communication device for selecting a route of a packet, comprising:

a static routing table storing first routing information of a packet based on static routing;

a dynamic routing table storing second routing information of a packet obtained based on a dynamic routing protocol; and

a judging unit obtaining the first and second routing information of the packet from said static routing table and said dynamic routing table; if failure do not occur in a static route as a route corresponding to the first routing information obtained from said static routing table, selecting the static route as a route to which the packet should be forwarded; and selecting, if the failure occurs in the static route, a dynamic route as a route corresponding to the second routing information obtained from said dynamic routing table, instead of the static route,

wherein the packet contains a first search key as a search key of said static routing table and a second search key as a search key of said dynamic routing table, and

said judging unit obtains the first and second routing information from said static routing table and said dynamic routing table by use of the first and second search keys,

wherein the first search key is virtual circuit information contained in the packet,
and

the second search key is a unique destination address contained in the packet, and
wherein the packet contains a MPLS shim header and the IPv4 header,
the virtual circuit information is a label value contained in the MPLS shim header,
and
the unique destination address is a destination address contained in the IPv4
header.

13.(previously presented): A communication device for selecting a route of a packet,
comprising:

a static routing table storing first routing information of a packet based on static
routing;

a dynamic routing table storing second routing information of a packet obtained
based on a dynamic routing protocol; and

a judging unit obtaining the first and second routing information of the packet
from said static routing table and said dynamic routing table; if a failure does not occur in a static
route as a route corresponding to the first routing information obtained from said static routing
table, selecting the static route as a route to which the packet should be forwarded; and selecting,
if the failure occurs in the static route, a dynamic route as a route corresponding to the second
routing information obtained from said dynamic routing table, instead of the static route,

wherein the packet contains a first search key as a search key of said static routing
table and a second search key as a search key of said dynamic routing table, and

said judging unit obtains the first and second routing information from said static routing table and said dynamic routing table by use of the first and second search keys,

wherein the first search key is virtual circuit information contained in the packet, and

the second search key is a unique destination address contained in the packet, and wherein the packet contains the mpls shim header and the IPv6 header, the virtual circuit information is the label value contained in the mpls shim header, and

the unique destination address is the destination address contained in the IPv6 header.

14.(previously presented): A communication device for selecting a route of a packet, comprising:

a static routing table storing first routing information of a packet based on static routing;

a dynamic routing table storing second routing information of a packet obtained based on a dynamic routing protocol; and

a judging unit obtaining the first and second routing information of the packet from said static routing table and said dynamic routing table; if a failure does not occur in a static route as a route corresponding to the first routing information obtained from said static routing table, selecting the static route as a route to which the packet should be forwarded; and selecting, if the failure occurs in the static route, a dynamic route as a route corresponding to the second routing information obtained from said dynamic routing table, instead of the static route,

wherein the packet contains a first search key as a search key of said static routing table and a second search key as a search key of said dynamic routing table, and

said judging unit obtains the first and second routing information from said static routing table and said dynamic routing table by use of the first and second search keys,

wherein the first search key is virtual circuit information contained in the packet, and

the second search key is a unique destination address contained in the packet, and wherein the packet contains an ST2 header based on a streaming protocol and the IPv4 header,

the virtual circuit information is a uniqueID contained in the ST2 header, and the unique destination address is the destination address contained in the IPv4 header.

15.(previously presented): A communication device for selecting a route of a packet, comprising:

a static routing table storing first routing information of a packet based on static routing;

a dynamic routing table storing second routing information of a packet obtained based on a dynamic routing protocol; and

a judging unit obtaining the first and second routing information of the packet from said static routing table and said dynamic routing table; if a failure does not occur in a static route as a route corresponding to the first routing information obtained from said static routing table, selecting the static route as a route to which the packet should be forwarded; and selecting,

if the failure occurs in the static route, a dynamic route as a route corresponding to the second routing information obtained from said dynamic routing table, instead of the static route,

wherein the packet contains a first search key as a search key of said static routing table and a second search key as a search key of said dynamic routing table, and

said judging unit obtains the first and second routing information from said static routing table and said dynamic routing table by use of the first and second search keys,

wherein the first search key is virtual circuit information contained in the packet,
and

the second search key is a unique destination address contained in the packet, and
wherein the packet contains the ST2 header based on the streaming protocol and the IPv6 header,

the virtual circuit information is the uniqueID contained in the ST2 header, and
the unique destination address is the destination address contained in the IPv6 header.

16.(previously presented): A communication device according to claim 9, wherein the packet contains a first IPv4 header and a second IPv4 header,

the first search key is a destination address contained in the first IPv4 header, and
the second search key is a destination address contained in the second IPv4 header.

17.(previously presented): A communication device according to claim 9, wherein the packet contains a first IPv6 header and a second IPv6 header,

the first search key is a destination address contained in the first IPv6 header, and
the second search key is a destination address contained in the second IPv6
header.

18.(previously presented): A communication device according to claim 9, wherein the
packet contains the IPv4 header and the IPv6 header,

the first search key is a destination address contained in the first IPv4 header, and
the second search key is a destination address contained in the second IPv6
header.

19.(previously presented): A communication device according to claim 9, wherein the
packet contains the IPv4 header and the IPv6 header,

the first search key is a destination address contained in the first IPv6 header, and
the second search key is a destination address contained in the second IPv4
header.

20.(previously presented): A communication device for selecting a route of a packet,
comprising:

a static routing table storing first routing information of a packet based on static
routing;

a dynamic routing table storing second routing information of a packet obtained
based on a dynamic routing protocol; and

a judging unit obtaining the first and second routing information of the packet

from said static routing table and said dynamic routing table; if a failure does not occur in a static route as a route corresponding to the first routing information obtained from said static routing table, selecting the static route as a route to which the packet should be forwarded; and selecting, if the failure occurs in the static route, a dynamic route as a route corresponding to the second routing information obtained from said dynamic routing table, instead of the static route,

wherein the packet contains a first search key as a search key of said static routing table and a second search key as a search key of said dynamic routing table, and

said judging unit obtains the first and second routing information from said static routing table and said dynamic routing table by use of the first and second search keys,

wherein the first search key is virtual circuit information contained in the packet, and

the second search key is a unique destination address contained in the packet, and

wherein the packet contains the IPv6 header,

the virtual circuit information is a flow label contained in IPv6 header, and

the unique destination address is a destination address contained in the second IPv6 header.

21.(previously presented): A communication device for selecting a route of a packet, comprising:

a plurality of static routing tables storing first routing information of the packet based on static routing;

a dynamic routing table storing second routing information of the packet obtained based on a dynamic routing protocol; and

a judging unit obtaining the first and second routing information of the packet from said static routing tables and said dynamic routing table; if failure do not occur in all of static routes as routes corresponding to the first routing information, selecting any one of the static routes as a route to which the packet should be forwarded; and selecting, if the failure occur in all the static routes, a dynamic route as a route corresponding to the second routing information obtained from said dynamic routing table, instead of the static routes.

22.(previously presented): A communication device for selecting a route of a packet, comprising:

a static routing table storing first routing information of a packet based on static routing;

a dynamic routing table storing second routing information of a packet obtained based on a dynamic routing protocol; and

a judging unit obtaining the first and second routing information of the packet from said static routing table and said dynamic routing table; if a failure does not occur in a static route as a route corresponding to the first routing information obtained from said static routing table, selecting the static route as a route to which the packet should be forwarded; and selecting, if the failure occurs in the static route, a dynamic route as a route corresponding to the second routing information obtained from said dynamic routing table, instead of the static route,

wherein the packet contains a first search key as a search key of said static routing table and a second search key as a search key of said dynamic routing table, and

said judging unit obtains the first and second routing information from said static routing table and said dynamic routing table by use of the first and second search keys,

wherein the first search key is virtual circuit information contained in the packet,
and

the second search key is a unique destination address contained in the packet, and
further comprising:

a marking process unit adding, if the dynamic route is selected, a mark for
indicating forwarding via the dynamic route into the packet that should be forwarded to the
selected dynamic route.

23.(previously presented): A method for selecting a route of a packet by a
communication device, comprising steps of:

providing a static routing table storing first routing information of the packet
based on static routing, said static routing table is not changed by a change of network topology,
and a dynamic routing table storing second routing information of the packet obtained based on a
dynamic routing protocol;

obtaining the first and second routing information from said static routing table
and from said dynamic routing table; and

selecting, if a failure does not occur in a static route as a route corresponding to
the first routing information, a static route as a route to which the packet should be forwarded,
and selecting, if the failure occurs in the static route, a dynamic route as a route corresponding to
the second routing information, instead of the static route.

24.(previously presented): A method according to claim 23, further comprising a step
of:

forwarding the packet to the route in accordance with a result of the selection by said judging unit.

25.(previously presented): A method according to claim 23, wherein the packet contains a search key common to said static routing table and said dynamic routing table, and the first and second routing information is obtained from said static routing table and said dynamic routing table by use of the search key.

26.(previously presented): A method according to claim 23, wherein the packet contains a first search key as a search key of said static routing table and a second search key as a search key of said dynamic routing table, and the first and second routing information is obtained by use of the first and second search keys respectively from said static routing table and said dynamic routing table.

27.(previously presented): A method according to claim 26, wherein the first search key is virtual circuit information contained in the packet, and the second search key is a unique destination address contained in the packet.

28.(previously presented): A method according to claim 27, wherein if the packet contains plural pieces of virtual circuit information, a predetermined piece of virtual circuit information is used as the first search key.

29.(previously presented): A method according to claim 23, further comprising a step

of:

writing, when transmitting a packet through the dynamic route to another communication device, special information for said other communication device to select the dynamic route to this packet.

30.(previously presented): A method according to claim 23, wherein if the special information is written to the packet, the dynamic route is selected.

31.(previously presented): A method for selecting a route of a packet by a communication device, comprising steps of:

providing a static routing table storing first routing information of a packet based on static routing, and a dynamic routing table storing second routing information of a packet obtained based on a dynamic routing protocol;

obtaining the first and second routing information from said static routing table and from said dynamic routing table; and

selecting, if a failure does not occur in a static route as a route corresponding to the first routing information, a static route as a route to which the packet should be forwarded, and selecting, if the failure occurs in the static route, a dynamic route as a route corresponding to the second routing information, instead of the static route,

wherein the packet contains a first search key as a search key of said static routing table and a second search key as a search key of said dynamic routing table, and

the first and second routing information is obtained by use of the first and second search keys respectively from said static routing table and said dynamic routing table,

wherein the first search key is virtual circuit information contained in the packet,
and

the second search key is a unique destination address contained in the packet,
wherein if the packet contains plural pieces of virtual circuit information, a
predetermined piece of virtual circuit information is used as the first search key, and
wherein the first search key and second search key are two pieces of unique
destination addresses different from each other.

32.(previously presented): A communication device for selecting a route of a packet,
comprising:

a first routing unit selecting a route, which is not changed by a change of network
topology, for guaranteeing a communication quality of the packet; and
a second routing unit selecting a route for securing reachability of the packet,
the route of the packet is selected by use of one of said first routing unit and said
second routing unit in accordance with a predetermined condition,

wherein, with respect to forwarding packets, a packet route selected by said first
routing unit is used when a failure of a packet route selected by said first routing unit does not
occur, and the packet route selected by said second routing unit is used when a failure of the
packet route selected by said first routing unit occurs.